

AMENDMENTS TO THE CLAIMS

Claims 1-29 (cancelled)

Claim 30 (new): A composition for scavenging sulfur compounds in fluids, the composition comprising a physical mixture of an oxide product that reacts with the sulfur compounds and having an electro-potential, and an activator having a higher electro-potential than the oxide product at a concentration sufficient to couple with the oxide product and increase the rate of reaction between the oxide product and the sulfur compounds at a temperature equal to or less than 300 °C to a rate that is greater than the rate of reaction between the activator and the sulfur compounds, wherein the oxide product is selected from the group consisting of iron oxide, iron hydroxide, zinc oxide, zinc hydroxide, and combinations thereof, and wherein the concentration of the activator is between about 0.125% and about 5% by weight of the composition.

Claim 31 (new): The composition of claim 30 wherein the oxide product is iron oxide.

Claim 32 (new): The composition of claim 30 wherein the activator comprises one or more noble metals selected from the group consisting of platinum, gold, silver, copper, cadmium, nickel, palladium, lead, mercury, tin, and cobalt, an alloy comprising at least one of the noble metals, an oxide of at least one of the noble metals, copper carbonate, or combinations thereof.

Claim 33 (new): The composition of claim 32 wherein the activator comprises cuprous oxide, cupric oxide, copper, a copper alloy, copper carbonate, or combinations thereof.

Claim 34 (new): The composition of claim 30 wherein the activator comprises between about 0.25% and about 2% of the composition.

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Claim 35 (new): The composition of claim 30 wherein the activator comprises less than about 1% of the oxide product.

Claim 36 (new): A composition for scavenging sulfur compounds in fluids, the composition comprising a carrier at a concentration that is between about 0% and about 95% by weight, an iron oxide product at a concentration that is between about 3% and about 30% by weight, water at a concentration that is between about 0% and about 80% by weight, and an activator having a higher electro-potential than the iron oxide product at a concentration that is between 0.125% and about 5% by weight, wherein the activator comprises copper oxide.

Claim 37 (new) The composition of claim 36 wherein the concentration of the carrier is between about 59% and about 76.8% by weight, the concentration of the iron oxide product is between about 5% and about 22% weight, the concentration of water is about 18% by weight, and the concentration of the activator is between about 0.25% and about 2% by weight.

Claim 38 (new): A composition for scavenging sulfur compounds in fluids, the composition comprising an iron oxide product at a concentration that is between about 95% and about 98.875% by weight and an activator at a concentration that is between about 0.125% and about 2% by weight, wherein the activator is selected from the group consisting of platinum oxide, gold oxide, silver oxide, copper oxide, copper carbonate, copper metal, copper alloy, cadmium oxide, nickel oxide, palladium oxide, lead oxide, mercury oxide, tin oxide, cobalt oxide, and combinations thereof.

Claim 39 (new): A composition for scavenging sulfur compounds in fluids, the composition comprising water as a carrier at a concentration that is between about 50% and about 80% by weight, an iron oxide product at a concentration that is between about 5 and about 22% by weight, and an activator at a concentration that is between

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about 0.125% and about 5% by weight, wherein the activator is selected from the group consisting of platinum oxide, gold oxide, silver oxide, copper oxide, copper carbonate, copper metal, copper alloy, cadmium oxide, nickel oxide, palladium oxide, lead oxide, mercury oxide, tin oxide, cobalt oxide, and combinations thereof.

Claim 40 (new): The composition of claim 39 having about 1 part by weight of the activator to about 10 to about 50 parts by weight of the iron oxide product.

Claim 41 (new): A composition for scavenging sulfur compounds in fluids, wherein the composition comprises a physical mixture of an oxide product and an activator, wherein the oxide product has an electro-potential and comprises zinc oxide, and wherein the activator has a higher electro-potential than the oxide product and is selected from the group consisting of platinum oxide, gold oxide, silver oxide, copper oxide, copper carbonate, copper metal, copper alloy, cadmium oxide, nickel oxide, palladium oxide, lead oxide, mercury oxide, tin oxide, cobalt oxide, and combinations thereof, and wherein the activator is at a concentration that is between about 0.125% and about 5% by weight.

Claim 42 (new): The composition of claim 41 wherein the oxide product further comprises iron oxide.